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AUTHOR Elerick, Charles
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ABSTRACT

The internalized grammar of the bilingual is different from that of a monolingual. The bilingual has, in addition to the entries that are proper to each of the two languages he speaks, certain union entries. These are extensive in the case of the Spanish/English bilingual since there are many items in the two languages that manifest systematic similarities. The initial motivation for the internalization of union entries is the apparent economy that can be gained thereby. The result is the opposite. Union entries occasion an increase in the number of phonological entities that are needed to differentiate lexical items. The grammar is further complicated by additional phonological rules that are necessary to reconcile the more abstract phonological representations with their manifestations. The bilingual is faced with a dilemma: his LAD (Language Acquisition Device) cannot overlook the similarity between certain items, such as "desierto" and "desert," but the result of the lexical rapprochement is unsatisfactory in that it entails complication of the grammar. The bilingual moves to resolve this dilemma through innovation and of course this takes place at the expense of the standard forms. When innovative items are examined within the framework of generative phonology a pattern of grammatical change for simplification clearly emerges. (Author/CFM)

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"The Bilingual Lexicon and Linguistic Innovation"

Charles Elerick
University of Texas at El Paso

March 1977

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"The Bilingual Lexicon and Linguistic Innovation"

The internalized grammar of the bilingual is different from that of a monolingual. The bilingual has, in addition to the entries that are proper to each of the two languages he speaks, certain union entries. These are extensive in the case of the Spanish/English bilingual since there are many items in the two languages that manifest systematic similarities.

The initial motivation for the internalization of union entries is the apparent economy that can be gained thereby. The result is the opposite. Union entries occasion an increase in the number of phonological entities that are needed to differentiate lexical items. The grammar is further complicated by additional phonological rules that are necessary to reconcile the more abstract phonological representations with their manifestations. The bilingual is faced with a dilemma: His LAD cannot overlook the similarity between items such as desierto and 'desert' but the result of the lexical rapprochment is unsatisfactory in that it entails complication of the grammar.

The bilingual moves to resolve this dilemma through innovation and of course this takes place at the expense of the standard forms. In the Spanish spoken by bilinguals in the United States the following forms, which can be ascribed to the process outlined here, have been observed: telefón for teléfono, población for población, gasolín for gasolina, etc. When these and other similarly innovative items are examined within the framework of generative phonology a pattern of grammatical change for simplification clearly emerges.

Charles Elerick
University of Texas at El Paso

THE BILINGUAL LEXICON AND LINGUISTIC INNOVATION

In some respects, the internalized grammar of the bilingual is different in kind from that of the monolingual. One difference can be found in the nature of the bilingual's lexicon. The lexicon of the bilingual includes, in addition to entries that are proper to each of the two languages he speaks, certain union entries. By "union entry" I mean the abstract representation that simultaneously underlies coordinate items in both languages of the bilingual which are phonologically and otherwise similar to such an extent that the bilingual could not fail to notice that the two language-specific manifestations were the "same word." These union entries must be very extensive in the case of the English/Spanish bilingual in view of the existence of hundreds, even thousands, of paired items such as 'decide'/decidir, 'battle'/batalla, and 'fabulous'/fabuloso. While there are interesting questions concerning the nature of the interrelationships between Spanish and English semantic ranges and Spanish and English syntactic classification, my discussion of lexical interaction will be limited to matters of phonology.

I assume that a union lexical entry includes a single underlying phonological representation. I further assume that these union phonological representations are linked to their respective manifestations by parallel sets of English and Spanish phonological rules. Both of these sets of rules are somewhat special in that they include rules

that would not be part of a monolingual grammar of either English or Spanish. The occurence of special rules in the phonological component results from the somewhat greater abstractness of underlying representation that is necessary in an intersection grammar.

Below are additional pairs of items of Spanish and English which can be assumed to correspond to a single union entry in the lexicon of the bilingual. Associated with each pair, represented in standard orthography, is the underlying phonological form that I posit as common to both manifestations. In some items there are minor exceptions that must be noted and this information would be included as part of the entry as well.

1) 'human'/humano /hūmano+/
2) 'hymn'/himno /himno+/
3) 'idiot'/idiota /idiota+/
4) 'desert'/desierto /dezerto+/
5) 'east'/este /Este+/
6) 'debate'/debate /dEbAte+/
7) 'legal'/legal /lEgal+/
8) 'fine'/fino /fIno+/
9) 'brief'/breve /brEve+/
10) 'orthography'/ortografía /orθografia+/
11) 'stranger'/estranjero /strAnyero+/
12) 'passion'/pasión /pasyon+/
13) 'fiber'/fibra /fIbra+/
14) 'theatre'/teatro /θEatro+/

The first thing that the observer should notice about these underlying representations is that they employ segmental entities that betoken certain contrasts that are commonly assumed for either Spanish or English but here are used as a larger conjoined set. It would be inappropriate, for example, to posit for Spanish underlying forms with /h/, /v/, /θ/, /z/ or any of a class of tense vowels that undergo vowel shift in English derivations, and which are represented here by upper case letters. On the other hand, dipthongizing syllabic nuclei such as those evident in the alternation in Spanish tener/tiene and here in desierto is a phenomenon unknown in English. There are, in addition, some underlying segments in a union phonological grammar that are not properly a part of either language and which would occur only in the grammar of a bilingual. An example of such a segment is /ɣ/, which occurs here in /strAnɣero+/.

Following are some exemplary derivations that will demonstrate more clearly the relationships that obtain between the Spanish and English items, their union representations and the rules that link each underlying representation to its two manifestations. All the rules that are illustrated by the forms in the exemplary derivations are supported by a much larger sample of Spanish/English pairs. For the purposes of this paper I have informally characterized each rule. Rules that would not be part of a monolingual grammar of English or Spanish are designated as special (spec.) There is much low level phonetic detail that is not specified by

the rules. These details include the aspiration of English stops, the nasalization of vowels before nasals, the dental vs. alveolar articulation of Spanish and English [+ant, +cor] segments respectively, the variation in English and Spanish non-nasal sonorants, etc. This phonetic detail is ommitted as not essential to the thrust of this paper.

It should be noted that stress assignment is handled here in a highly abbreviated fashion. I have simply assigned stress at the appropriate point in the derivations and attributed this to the operation of the stress cycle. Note also that the tense vowels that undergo vowel shift in English derivations are otherwise equivalent to the corresponding tense vowel. Therefore, in the Spanish derivations they are handled as the latter and are conventionally represented as ē, etc. after the application of the Spanish vowel-tensing rule.

'human'/humano

/hūmano+/	/hūmano+/
hūman (final V del.) (spec.)	ūmano (h deletion) (spec.)
hūmàn (stress cycle)	ūmáno (stress cycle)
hyūmàn (y insertion)	ūmáno (vowel tensing)
hyūmǹ (syllable reduction)	

'ɪdiot'/idiota

/idiota+/

idiot (final V del.) (spec.)

ídiòt (stress cycle)

ídīòt (vowel tensing)

ídīət (vowel reduction)

/idiota+/

idiṓta (stress cycle)

iðiṓta (vcd. stop lenition)

iðyṓta (i→y)

īðyṓtā (vowel tensing)

'legal'/legal

/lEgal+/

lÉgal (stress cycle)

lígal (vowel shift)

lígl̀ (syllable reduction)

/lEgal+/

lEgál (stress cycle)

lēgál (vowel tensing)

'desert'/desierto

/dezerto+/

dezert (final vowel deletion) (spec.)

dézèrt (stress cycle)

dézṛt (syllable reduction)

/dezerto+/

dezérto (stress cycle)

dezyérto (dipthongization)

desyérto (fric. devoicing)

dēsyértō (vowel tensing)

'brief'/breve

/brEve+/

brEv (final V del.) (spec.)

brÉv (stress cycle)

brív (vowel shift)

brīf (obstruent devoicing)

/brEve+/

brÉve (stress cycle)

bréve (vowel tensing)

brēβē (v→β) (spec.)

'orthography'/ortografía

/orθografia+/	/orθografia+/
orθografi (final vowel deletion)(spec.)	òrθografía (stress cycle)
orθógrafì (stress cycle)	ortografía (θ→t) (spec.)
orθágrafì (o→a)	ortōgrāfía (vowel tensing)
orθágrəfì (vowel reduction)	
orθágrəfí (word final vowel tensing)	

'stranger'/estranjero

/strAnɣero+/	/strAnɣero+/
strAnɣer (final V del.) (spec.)	strAnɣéro (stress cycle)
strAnɣèr (stress cycle)	estrAnɣéro (epenthesis)
strenɣèr (vowel shift)	estrAŋɣéro (nasal assim.)
strenǰèr (ɣ→ǰ) (spec.)	estrAŋxéro (fric. devoicing
strenǰr̀ (syllable reduction)	estrāŋxerō (vowel tensing)

'passion'/pasión

/pasyon+/	/pasyon+/
pásyòn (stress cycle)	pasyón (stress cycle)
pæsyòn (a→æ) (spec.)	pasyon (vowel tensing)
pæšoǹ (sy→š) (spec.)	
pæšǹ (syllable reduction)	

The bilingual's initial motivation for the internalization of union lexical entries is the apparent economy that can be gained by employing such a device. However, the actual result of having union entries is the complication of the grammar as a whole. This complication is first evident in the increased inventory of underlying segments, differentiated

by either articulatory or special status features. The additional rules that must be posited to reconcile the underlying union forms constitute additional complication.

The bilingual is then confronted with a dilemma: It is simply impossible for him--that is, his sub-conscious grammar internalization mechanism--to overlook the systematic relationships that obtain between immense numbers of Spanish and English items. At the same time, the result of this lexical rapprochement is a significant increase in the complication of his grammar and the derivational complexity with respect to individual items.

Economy is highly valued but comprehensive economy cannot be achieved with lexical representations which along with a significantly complicated phonological component specify standard English and standard Spanish manifestations. The result is grammar simplification and this simplication takes place at the expense of the standard forms.

To illustrate the effect and significance of the pressure for simplication that bears on the bilingual grammar, seven innovative forms used by some speakers of Spanish in the United States will be discussed. These forms are previewed below and and correspond to standard English, standard Spanish and innovative Spanish from left to right respectively.

'telephone'	teléfono	telefón
'population'	población	populación
'gasoline'	gasolina	gasolín
'caramel'	caramelo	carmelo

'ancestor'	ansestro	ansestor
'alcohol'	alcohol	alcajol
'champion'	campeón	champión

On the ensuing pages I will offer a discussion of these items within the following format. First, the union phonological representation that underlies both the standard forms along with the respective surface derivations will be presented. Then, the standard English and innovative Spanish form will be similarly presented, with their underlying representation and respective derivations. On the basis of observable contrasts in lexical and derivational complexity, certain conclusions regarding innovation in bilingual grammars will then be advanced.

'telephone'/teléfono

/telefōno+/	/telefōno+/
telefōn (final V del.)	teléfōno (minor stress rule
télefōn (stress cycle)	tēlēfōnō (V. tensing)
téləfōn (vowel reduction)	

'telephone'/telefón

/telefōn+/	/telefōn+/
téléfōn (stress cycle)	telefón (stress cycle)
téləfōn (vowel reduction)	tēlēfón (V. tensing)

The substitutuion of telefón by a bilingual brings about simplication in his lexicon and in the derivation of surface forms in both languages. In addition to shortening the lexical form by one segment, special status information specifying the irregular stressing of the standard form is unnecessary.

Perhaps it should be made clear that the stressing of the last syllable in <u>telefón</u> is completely regular since the word final nasal is a lexical rather than grammatical formative segment. The simplification in the English derivation is easily observable but not so in the Spanish derivation. I consider that the fact that it is unnecessary to refer to a minor stress rule in the derivation amounts to a simplification.

'population'/<u>población</u>

/popūlAsyon+/	/popūlAsyon+/
pòpūlÁsyon (stress cycle)	poplAsyon (minor rule)
pòpyūlÁsyon (y insertion	poblAsyón (minor rule)
pòpyūlésyon (vowel shift)	poblAsyón (stress cycle)
pàpyūlésyon (o→a)	pōblāsyón (V. tensing)
pàpyūlésón (sy→š) (spec.)	
pàpyūlésn (syllable reduction)	

'population'/<u>población</u>

/popūlAsyon+/	/popūlAsyon+/
pòpūlÁsyon (stress cycle)	pòpūlAsyón (stress cycle)
pòpyūlÁsyon (y insertion)	pòpūlāsyón (V. tensing)
pòpyūlésyon (vowel shift)	
pàpyūlésyon (o→a)	
pàpyūlésón (sy→š) (spec.)	
pàpyūlésn (syllable reduction)	

The innovation of <u>población</u> has the effect of simplifying the union phonological entry and the Spanish derivation. The lexical form is relieved of two segment specific speical status indicators. One of these marks /$\bar{u}$/ for deletion and another marks the second /p/ for voicing. The effect of the innovative union lexical form on the Spanish derivation is substantial and obvious.

'gasoline'/<u>gasolina</u>

/gasolīna+/	/gasolīna+/
gasolīn (final V deletion) (spec.)	gasolína (stress cycle)
gásolìn (stress cycle)	gāsōlínā (vowel tensing)
gásəlìn (vowel reduction)	
gæsəlìn (a→æ) (spec.)	

'gasoline'/<u>gasolín</u>

/gasolín+/	/gasolín+/
gásolìn (stress cycle)	gasolín (stress cycle)
gásəlìn (vowel reduction)	gāsōlín (vowel tensing)
gæsəlìn (a→æ) (spec.)	

By substituting <u>gasolín</u> for <u>gasolina</u> the bilingual enjoys a real though minor savings in his lexicon and one complication, also relatively minor, in the sequence of rules that specify the English manifestation.

'caramel'/caramelo

/karamelo+/	/karamelo+/
karamel (final V deletion)	karamélo (stress cycle)
karmel (minor rule) (spec.)	karāmélō (vowel tensing)
kárməl (stress cycle)	
kɔ́rməl (a→ɔ)	
kɔ́rm̩l (syllable reduction)	

'caramel'/carmelo

/karmelo+/	/karmelo+/
karmel (final V deletion) (spec.)	karmélo (stress cycle)
kárməl (stress cycle)	kārmélō (vowel tensing)
kɔ́rməl (a→ɔ)	
kɔ́rm̩l (syllable reduction)	

The replacement of the underlying form /karamelo+/ with /karmelo+/ involves important simplification in that no special status information relating to the syncopation of the medial syllable in the English manifestation is necessary in the innovative form. The English derivation is also correspondingly simplified.

'ancestor'/ansestro

/ansestro+/	/ansestro+/
ansestr (final V deletion) (spec.)	anséstro (stress cycle)
ansestr̩ (syllabification)	ānsēstrō (vowel tensing)
ánsestr̩ (stress cycle)	
ǽnsestr̩ (a→æ) (spec.)	

'ancestor'/ansestor

/ansestor+/	/ansestor+/
ánsestòr (stress cycle)	ansestór (stress cycle)
ǽnsestòr (a→æ) (spec.)	ānsēstór (vowel tensing)
ǽnsestr̀ (syllable reduction)	

For this pair, the innovative lexical representation is not demonstrably simpler than that it replaces. The new form does, however, occasion a simpler English derivation.

'alcohol'/alcohol

/alkohol+/	/alkohol+/
álkohòl (stress cycle)	alkool (h deletion)
álkəhòl (vowel reduction)	alkol (ident. V deletion)
ǽlkəhòl (a→æ) (spec.)	alkól (stress cycle)
ǽlkəhɔ̀l (o→ɔ)	

'alcohol'/alcajol

/alkaxol+/	/alkaxol+/
alkahol (x→h) (spec.)	alkaxól (stress cycle)
álkahòl (stress cycle)	ālkāxól (vowel tensing)
álkəhòl (vowel reduction)	
ǽlkəhòl (a→æ) (spec.)	
ǽlkəhɔ̀l (o→ɔ)	

As is the case in the preceding example, both the innovative representation and the representation it supersedes are equally complex. Here the Spanish derivation is simplified while the English derivation is complicated to an approximately equal extent.

'champion'/campeón

/kampEon+/	/kampEon+/
kámpEòn (stress cycle)	kampEón (stress cycle)
kámpīòn (vowel tensing)	kāmpeón (vowel tensing)
kámpīǹ (syllable reduction)	
čámpiǹ (minor rule) (spec.)	
čǽmpīǹ (a→æ) (spec.)	

'champion'/chamión

/čampion+/	/čampion+/
čámpiòn (stress cycle)	čampión (stress cycle)
čámpīòn (vowel tensing)	čampyón (i→y)
čámpīǹ (syllable reduction)	čāmpyón (vowel tensing)
čǽmpīǹ (a→æ) (spec.)	

The restructuring of the lexicon through the replacement of /kampEon+/ by /campion+/ results in substantial simplification in the lexicon and some simplification in the English derivation. The English derivational simplification is, however, approximately matched by complication in the Spanish derivation leaving as the net gain in economy that of the lexicon. The lexical simplification is more radical than might be evident at first glance, involving the elimination of the inclusion of /k/ in a k→č minor rule and the replacement of the more complex /E/ by /i/.

In this paper I have developed the essentials of a formal framework and a discovery procedure based on this framework and have employed both in an attempt to understand certain aspects of linguistic change in a language contact situation. In this regard I consider the concept of the union lexical entry and the use of contrastive derivations that proceed from alternate lexical representations to be important.

On the basis of this study the following general observations and tentative conclusions can be drawn. The innovative Spanish forms are, of course, more like their English counterparts than the forms they replace. What is perhaps noteworthy is the fact that the general effect of the greater similarity of surface form and the innovative lexical form that underlies the partially new pair is the simplification of the English derivation. This is true in five of the seven cases inspected here. I have no explanation for the fact but am certain that it has some significance. It will bear further study.

Secondly, it would seem obvious from the data and analyses presented here that there is a definite relationship between the pressure for grammatical change that takes place in a monolingual setting and the pressures that bring about the innovation of non-standard

forms in a bilingual's grammar and hence in a bilingual community. It would follow then, that the bilingual community is likely to be an especially good place for those interested in language change to look for examples of linguistic systems in flux. It is also motivation, for those who are not so inclined, to view the innovation of non-standard forms in a bilingual community as a very natural development and not the result of some perversity.

The most important conclusion that can be drawn from this paper should be the most obvious but is probably not. This paper reaffirms that languages in contact are systems in contact. The interaction between languages in contact situations is between these systems and not between items, as such. This is tantamount to repeating the now standard dictum of modern linguistics, that linguistic change is grammatical change and that the change that is oberservable in the forms of the language is the manifestation of grammatical change.

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